

British Association for the Advancement of Science.

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Mental and Physical Deviations of Children.—Report of the Committee, consisting of Sir DOUGLAS GALTON (Chairman), Dr. FRANCIS WARNER (Secretary), Mr. E. W. BRABROOK, Dr. J. G. GARSON, and Dr. WILBERFORCE SMITH. (Report drawn up by the Secretary.)

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THE Committee, acting in conjunction with a committee appointed for the same purpose by the International Congress of Hygiene and Demography (1891), in presenting their third report are able to give a further account of the 50,000 children seen individually during the years 1892-94.

The methods of observation and the points observed were fully described in our first report. Analysis of the points observed in each child affords material for the arrangement of groups of cases, prepared by established actuarial processes, their distribution, and their co-relations, and enables us to give results of scientific interest and importance, and also to give evidence on questions concerning the education of children and their control by the State.

We proceed to give the results of research among the 8,941 cases (boys 5,112, girls 3,829) of whom notes were taken as to the points in which they were below the average in bodily or mental status.

As a step towards ascertaining the causation of defects, and the most probable means of removing them, we have arranged the children

in twelve groups of schools presented in Table I., which gives the 'numbers seen' and 'the numbers noted' in each group of schools respectively, and the special defects they presented. It is thus possible to ascertain the relative frequency of each defect among the boys and girls of the nationalities and social classes, &c.

The numbers of cases presenting individual defects, when distributed among the nationalities and social classes, &c., are comparatively small for the general purposes of research it appears more satisfactory to deal with groups of cases presenting the main classes of defects. For this reason the Committee have bestowed much labour on preparing a general but exact analysis of the facts in hand, dealing principally with the distribution and co-relations of the main classes of defects, leaving for future work the study of similar relations among the individual signs in such classes.

There are four main classes or divisions into which the defective conditions observed may be grouped.

A. *Defects in development* of the body and its parts—in size, form, and proportioning of parts.

B. *Abnormal nerve-signs*: certain abnormal actions, movements, and balances.

C. *Low nutrition*, as indicated by the child being thin, pale, or delicate.

D. *Mental Dulness*.—The teacher's report as to mental ability was added to the record of each child noted, and those stated to be backward or below the average in ability for school work were entered as 'dull.'

The relative distribution of these classes of defects is shown in Table II., which also gives the combinations in which they occur, and their percentages upon the numbers of children seen and the numbers noted. It is by studying the distribution and the co-relations of these groups that new information is most readily obtained.

Among the children who present some degree of defect those are probably in best condition who present only 'one main class of defects,' while those with four classes of defects are often so deficient as to need special care and training. The numbers and percentages of these groups are all given in Table II.

A full statement of the facts observed has been prepared for early publication by the committee with whom we are allied, which enables us to make certain general statements upon which their report will afford detailed evidence.

Defects in development of the body are more frequent among boys than girls—in the proportion of 8·7 to 6·8. A marked exception to this rule is in the cases of small cranium, which are much more frequent among girls: this defect appears to some degree endemic in neighbourhoods of large buildings. It is less frequent among Irish children, who in other particulars present many noteworthy points.

Of the cases with defect in development (A), 16·2 per cent. of the boys and 26·4 per cent. of the girls were pale, thin, or delicate; and 38·4 per cent. of the boys and 45·0 per cent. of the girls were reported as dull.

These facts serve to illustrate the importance of presenting all the statistics separately for males and females. The greater harm that results from defect of body among girls is shown by the fact that 65·3 per cent. of the boys and 72·5 per cent. of the girls presented other conditions of defectiveness. The evidence accumulated shows the importance

looking to the four main classes of defect in each case. It has not been possible in our examinations conducted in schools to use anthropometric methods to any extent, but new information has been supplied upon an extended basis of observation as to the significance of deviations from the normal proportioning of the bodily development.

It has been fairly established by observation, independent of arguments derived from other sources, that the 'nerve-signs' recorded in this investigation correspond to disordered brain conditions, such as produce in their mental function dull and backward children.

Of cases with 'nerve-signs' 41·5 per cent. of boys, 42·6 per cent. of girls were reported as dull; of development defect with 'nerve-signs,' 45·1 per cent. of boys, 51·6 per cent. of girls, were reported as dull. Ill-proportioned bodies with motor indications of disorderly or slowly acting brains are very apt to be dull mentally. In these facts we find further evidence of a physical basis of mental action and expression. The probability that the children reported by the teachers as dull were backward children is indicated by the large proportion of them found to be over age for the class or educational standard in which they had been placed in school.

In Table I. is given a class, 'G. Exceptional Children.' This includes all children whose physical or mental conditions show them to be obviously at a permanent disadvantage therefrom in social life. This group includes idiots, imbeciles, 'children feebly gifted mentally'; children mentally exceptional or deficient in moral sense; epileptics and children with history of fits during school life; dumb children and all children crippled, deformed, maimed, or paralysed. All these exceptional children need to be considered individually: they form about 1·5 per cent. of the school population.

Reviewing the work of which we thus give a brief account, it may be stated that the object has been to furnish a reliable statement of the conditions observed among children seen in schools. The inquiry commenced in 1888, and 100,000 children in all have been examined and reported on. The points worthy of note have been defined and numerated; the children have been distributed in groups according to the combinations of points they presented, and classified in other ways, including special particulars as to the children with mental or other deficiency, the numbers in each class being recorded. The methods of reporting and preparing statistical statements have been carefully elaborated and systematised.

Information has from time to time been supplied to the Government departments and other public bodies as to the provision needed for dull and backward children; the classification of children in schools providing secondary education; children in Poor Law schools and other institutions, and on other important questions.

It is hoped that the scientific classification of children and enumeration of conditions existing among them will lead to the adoption of means of social improvement, and we recommend the continuation of such inquiries in other parts of the country.

The Committee desire to be reappointed, and ask a grant in aid of the work.

TABLE 1.—*Showing the Numbers of the Main Classes of defects noted distributed in Groups of Schools represent*

	School Groups I. to XII.		London Board Schools English Children Upper Social Class		London Board Schools English Children Average Social Class		London Board Schools English Children Poorer Social Class		London Board Schools Jewish Children	
	Total Nos.		I.		II.		III.		IV.	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Number of children seen	26,287	23,713	4,800	4,316	6,113	5,628	6,242	5,213	1,368	249
Number of children noted	5,112	3,829	838	679	1,159	944	1,155	863		
A. Cases with defect in Development alone or in combination	2,308	1,618	396	272	510	385	548	391	126	
1 Cranium defective	806	611	120	74	159	142	200	173	55	
2 " large	107	13	19	2	19	4	31	3	6	
3 " small	149	516	15	61	27	127	52	155	12	
4 " bossed	323	47	49	5	59	10	65	6	29	
5 Forehead defective	53	23	4	2	14	6	10	3	2	
6 Interfrontal ridge	121	19	28	3	27	5	22	3	5	
7 Cranium asymmetrical	27	2	2	1	8	—	10	1	—	
8 Dolichocephalic	26	2	4	—	5	—	7	2	2	
9 Hydrocephalic	2	1	—	—	—	—	1	—	—	
10 Other types of cranium	11	2	2	—	—	1	6	—	1	
11 External ear defective	364	103	62	21	69	22	73	24	29	
12 Eyelids with epicanthis	288	190	53	45	63	40	79	41	5	
13 Palate defective in form	496	310	104	71	131	77	97	55	3	
14 " narrow	276	163	69	42	72	38	55	27	6	
15 " V-shaped	179	110	30	24	43	29	35	22	7	
16 " arched	30	22	3	3	13	4	4	4	—	
17 " cleft	12	13	2	2	4	5	3	2	—	
18 Other types of defective palate	—	1	—	—	—	—	—	—	—	
19 Nasal bones wide, sunken	155	153	16	15	42	31	37	49	9	
20 Growth small; stature short	271	328	46	58	65	79	68	105	12	
21 Other defects in development	250	212	37	42	60	38	58	40	15	
B. Cases with Abnormal Nerve-signs alone or in combination	2,853	2,015	423	342	644	492	601	437	132	
43 General balance defective	90	113	11	18	18	21	9	31	9	
44 Expression defective	151	191	19	32	38	40	39	57	10	
45 Frontal muscles overacting	696	146	107	28	127	25	157	37	26	
46 Corrugation; knitting eyebrows	38	11	4	1	9	2	8	4	—	
47 Orbicularis oculi relaxed	371	293	61	44	78	82	93	87	9	
48 Eye movements defective	348	261	52	57	60	62	95	65	23	
49 Head balance asymmetrical	95	274	6	49	17	55	22	75	9	
50 Hand balance weak	1,234	778	175	135	298	201	209	118	55	
51 Hand balance nervous	253	359	25	48	70	104	63	85	11	
52 Finger twitches	145	142	23	22	38	31	32	32	4	
53 Lordosis	36	112	6	30	3	18	6	20	4	
54 Other abnormal nerve-signs	468	282	78	43	100	58	121	72	35	
C. Cases with low nutrition	749	770	104	117	180	199	195	205	36	
D. Children reported as dull or backward	2,077	1,635	294	233	539	447	511	394	134	
E. Eye cases	764	692	142	142	172	153	169	129	3	
G. 'Exceptional children'	157	147	17	21	30	37	56	34	12	

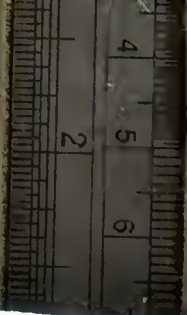
*Individual Defects ; also the Numbers of Children seen and
Nationalities, Social Classes, &c.*

Average Social Class	Edinburgh Board Schools Upper Social Class		Voluntary Schools English Children Upper Social Class		Voluntary Schools English Children Average Social Class		Voluntary Schools English Children Poorer Social Class		Voluntary Schools Irish Children Poorer Social Class		Voluntary Schools Jewish Children Average Social Class		Voluntary Schools Jewish Children Poorer Social Class		
	VI.		VII.		VIII.		IX.		X.		XI.		XII.		
Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
81 70	803 163	807 128	974 250	939 162	968 228	988 158	697 137	720 96	2,171 535	1,952 324	823 138	693 104	440 155	394 78	
33	64	37	96	55	96	70	58	44	252	163	68	44	49	23	
9	15	12	31	17	48	28	24	16	111	65	18	19	13	8	
1	3	—	8	1	4	1	4	—	11	—	—	1	1	—	
7	2	7	2	12	8	23	3	15	16	52	5	16	3	6	
1	5	4	11	—	17	2	14	1	54	6	8	1	8	1	
—	2	—	2	1	5	2	—	—	11	5	1	1	1	1	
—	2	1	6	3	10	—	2	—	14	2	3	1	—	—	
—	—	—	2	—	2	—	—	—	2	—	—	—	—	—	
—	1	—	1	—	4	—	1	—	2	—	1	—	—	—	
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
2	20	5	22	2	9	2	5	—	2	—	—	—	—	—	
5	7	2	8	6	6	9	15	10	39	9	19	3	10	2	
0	16	10	28	14	19	14	10	8	23	17	16	8	4	—	
6	7	8	11	6	9	6	4	4	45	28	12	8	8	4	
4	8	2	16	6	8	4	5	3	24	15	4	2	5	1	
—	1	—	1	—	2	3	—	1	16	8	6	3	2	2	
—	—	—	—	2	—	—	1	—	4	3	1	3	1	1	
—	—	—	—	—	—	—	—	—	1	2	1	—	—	—	
3	3	2	2	6	6	9	1	10	—	—	—	—	—	—	
3	7	7	8	7	9	13	5	6	27	17	2	3	4	2	
3	7	6	12	13	11	9	6	3	29	24	5	6	14	3	
—	—	—	—	—	—	—	—	—	26	21	5	4	7	8	
0	105	83	156	96	148	82	78	55	322	177	83	63	98	40	
1	8	2	3	1	5	1	2	4	10	12	4	4	7	4	
1	3	6	1	4	11	8	2	4	12	20	9	5	2	3	
—	11	3	22	—	40	6	29	3	131	27	16	4	20	1	
—	1	4	1	—	1	—	—	—	11	—	2	—	—	—	
—	7	5	37	20	26	14	15	12	20	16	12	5	8	—	
—	1	3	24	8	14	6	9	2	30	11	10	8	21	4	
6	4	2	11	8	13	2	2	2	13	28	2	9	3	4	
79	55	83	43	55	40	28	20	5	124	68	37	28	52	23	
—	4	18	22	14	5	9	5	1	23	34	8	14	5	5	
—	—	7	11	13	3	5	1	1	13	19	2	3	2	—	
4	7	3	6	2	1	1	1	1	2	7	2	7	2	5	
16	11	17	8	20	12	9	10	37	37	20	9	9	17	8	
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
18	27	26	21	49	31	18	19	71	75	10	9	26	9	—	
73	51	80	60	83	66	69	47	182	127	47	28	33	37	—	
34	23	37	33	39	35	24	15	67	59	20	26	20	22	—	
5	2	2	3	6	10	3	5	16	14	4	2	3	2	—	

TABLE II.—Giving the cases noted as showing some defect, distributed in groups presenting the defects named only, and their percentages on the number noted and on the number seen respectively. Also giving the numbers and percentages of the groups with one, two, three, or four defects respectively:—

	Number of cases and percentages taken on number of children noted				Percentages taken on the number of children seen	
	Boys		Girls		Boys	Girls
	No.	Per cent.	No.	Per cent.	Per cent.	Per cent.
Primary groups —presenting only the main class of defects indicated						
A. Cases with defect in development only	802	15.7	445	11.5	3.0	1.9
B. " " abnormal nerve-signs only	1059	20.7	762	19.7	4.0	3.2
C. " " low nutrition only	108	2.1	110	2.8	.4	.5
D. Children dull or backward only	331	6.5	297	7.7	1.3	1.2
Groups with only one main class of defect	2300	45.0	1614	41.7	8.7	6.8
AB. Cases with defect in development and nerve-signs only	415	8.1	207	5.4	1.6	.9
AC. Cases with defect in development and low nutrition only	134	2.6	162	5.2	.5	.7
AD. Cases with defect in development and dull or backward only	394	7.7	314	8.2	1.5	1.3
BC. Cases with abnormal nerve-signs and low nutrition only	115	2.2	109	2.8	.4	.5
BD. Cases with abnormal nerve-signs and dull or backward only	703	13.7	487	12.6	2.7	2.0
CD. Cases pale, thin, or delicate, and dull or backward only	63	1.2	53	1.3	.2	.2
Groups with only two main classes of defect	1824	35.5	1332	35.5	6.9	5.6
ABC. Cases with defect in development, with nerve-signs and low nutrition only	69	1.4	77	2.0	.2	.3
ABD. Cases with defect in development, with nerve-signs and dull or backward	323	6.3	224	5.8	1.2	.9
ACD. Cases with defect in development, with low nutrition and dull or backward	91	1.8	110	2.8	.3	.5
BCD. Cases with nerve-signs, low nutrition, and dull or backward	89	1.8	70	1.8	.3	.3
Groups with only three main classes of defect	572	11.3	481	12.4	2.0	2.0
ABCD. Dull children with nerve-signs, defect in development, and pale, thin, or delicate	80	1.6	79	2.0	.3	.3
		.2	99	4.4	1.4	1.4





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